

**II. Remarks**

Favorable reconsideration of this application in the light of the following discussion is respectfully requested. Claims 20-25 and 32-34 are subject to restriction and/or election requirement and have been withdrawn. New claim 39 has been added. Claims 1-19, 26-31 and 35-39 remain pending for reconsideration.

**Withdrawn Rejections**

Applicants note with appreciation that, in response to Paper #9, the Examiner has withdrawn the 35 U.S.C. 112 rejection of claims 8 and 9 in Paper #5, the 35 U.S.C. 102 rejection of claims 1, 3, 4, 6, 7, 10-13, 16-18, 26, 27, 30, 31 and 35 in Paper #5, the 35 U.S.C. 103 rejection of claims 2, 5, 8, 9, 14, 15 and 19 in Paper #5, and the 35 U.S.C. 103 rejection of claims 1, 26, 28, 29 and 36-38 in Paper #7.

**Claim Rejections - 35 USC § 103 (Tsuei)**

Claims 1-19, 26, 27, 30, 31 and 35 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuei (USPN 5,783,303).

The Office Action indicates that Tsuei discloses an article with a plurality of "ceramic granules" (column 11, lines 47-51 and Figure 1, #16) bonded to a polymeric film (column 11, lines 28-30 and Figure 1, #11) by a radiation curable (column 4, lines 41-44) aliphatic urethane acrylic copolymer (column 4, lines 30-31). A variety of items may be added to the curable coating including pigments, dyes, ultraviolet absorbers, ultraviolet scavengers, fillers and adhesion promoters (column 7, lines 26-37). In order to improve adhesion to the coatings, the film may be primed (column 11, lines 43-45). The article may also be formed a free-standing coating with a layer of adhesive to attach particles to the surface (column 12, lines 26-45). A size coating, sealant, of varying thickness is placed over the particles, completely covering some of the particles, and adhesive layer to help bond the particles to the film (column 10, lines 39-59). The article may be used as a floor covering (column 9, lines 59-64).

It is asserted that one of ordinary skill in the art would have recognized that the claimed integrated granule product would be pliable as determined by the flexibility test according to ASTM D-228-00 and ASTM D-882.97, and that the aesthetic color of granules are not affected by the cured adhesive since Tsuei teaches a composition made with ceramic granules adhered to a surface using an acrylated aliphatic urethane, which are the same parameters of the claimed invention. The Office Action concludes that one of ordinary skill in the art would readily determine the optimum flexibility and color affects depending on the end-desired results in the absence of unexpected results.

The Examiner acknowledges that Tsuei teaches solid ceramic granules instead of ceramic coated granules. However, the Examiner takes the position that the solid granules are performing an equivalent function to the Applicant's ceramic coated granules, unforeseen of any unexpected results from the coated ceramic granules. It is further indicated that if unexpected results are present from having the coated granules instead of solid particles, these results need to be presented to show that the granules are not equivalent functions.

#### **Response to Claim Rejections - 35 USC § 103 (Tsuei)**

Applicants respectfully traverse the rejection of claims 1-19, 26, 27, 30, 31 and 35 as being unpatentable over Tsuei. As acknowledged by the Examiner, Tsuei does not disclose "ceramic coated granules." Instead, the Examiner states that "the solid granules [of Tsuei] are performing an equivalent function to the Applicant's ceramic coated granules."

However, "in order to rely on equivalence as a rationale supporting an obviousness rejection, the equivalency must be recognized in the prior art, and cannot be based on applicant's disclosure or the mere fact that the components at issue are functional or mechanical equivalents." MPEP 2144.06.

Indeed, the mere fact that the prior art *may be* modified does not make the modification obvious unless the prior art suggested the desirability of the modification. *In re Fritch*, 23 USPQ2d 1780, 83-84 (Fed. Cir. 1992). Should the Examiner be relying on information beyond the disclosure of Tsuei, applicants respectfully request that the Examiner provide any such information that might support the Examiner's position in an affidavit, as required by 37 CFR §1.104(d)(2), since the mere allegation that the differences between the claimed subject matter

and the prior art are obvious does not create a presumption of unpatentability. See *In re Soli*, 137 USPQ 797 (CCPA 1963). Rather, these differences acknowledge that all elements of the present invention are not present in the reference. No further reference is cited to supply the missing elements. Thus, the prima facie case of obviousness has not been shown.

As Tsuei fails to teach or suggest “ceramic coated granules” as defined in the pending claims, a prima facie case of obviousness has not been established, and the rejection of claims 1-19, 26, 27, 30, 31 and 35 under 35 U.S.C. 103(a) should be withdrawn.

#### **Claim Rejections - 35 USC § 103 (Miller and George)**

Claims 1, 8, 26, 28, 29 and 36-38 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al. (USPN 6,426,309) in view of George et al. (USPN 5,516,573).

Miller et al. is cited as disclosing a roofing material in the form of shingles (Figures 14-17) with a film of protective coating (Column 6, lines 41-43 and Figures 4 and 5, #70) bonded to and covering an asphalt based substrate (Column 6, lines 55-60 and Figure 4, #76 and 78). The exposed surface of the roofing material is covered with granules (Figures 4 and 5, #72). However, it is noted that Miller et al. fails to disclose the granules being adhered to the surface of the roofing material being ceramic coated granules.

George et al. is cited as teaching ceramic-coated granules (Column 3, lines 8-12) on the surface asphalt based substrate (Column 4, lines 20-21) of a roofing material (Figure 3, #63 and Column 2, lines 46-47) where the roofing material includes roof shingles with exposed surfaces (Column 1, line 11 and lines 39-42) the purpose of giving protection against exposure from ultraviolet light and improve fire resistance and weather characteristics.

The Examiner concludes that it would have been obvious to one of ordinary skill in the art at the time the Applicant’s invention was made to have ceramic granules in Miller et al. in order to protect against exposure from ultraviolet light and improve fire resistance and weather characteristics as taught by George et al.

Further, the Examiner takes the position that one of ordinary skill in the art would have recognized that the claimed integrated granule product would exhibit a tensile strength of greater than 50% over a shingle without the integrated granule product according to American Roofing Manufacturers Association Test Index No. 2,126, since Miller et al. teaches ceramic granules

adhered to polymeric film using a variety of adhesives including a hot melt adhesive, which are the same parameters of the claimed invention. It is asserted that one of ordinary skill in the art would readily determine the optimum tensile strength depending on the desired results in the absence of unexpected results.

**Response to Claim Rejections - 35 USC § 103 (Miller and George)**

Applicants respectfully traverse the rejection of claims 1, 8, 26, 28, 29 and 36-38 as unpatentable over Miller et al. and George et al. As noted by the Examiner, Miller et al. discloses a roofing material in the form of shingles (Figures 14-17) with a film of protective coating (Column 6, lines 41-43 and Figures 4 and 5, #70) bonded to and covering an asphalt based substrate (Column 6, lines 55-60 and Figure 4, #76 and 78). Thus, as apparently conceded by the Examiner, the protective (or adhesive) coating #70 of Miller et al. is used to bond the granules directly to the asphalt substrate. Thus, among other things, Miller et al. fails to teach or suggest a plurality of granules bonded to a film by a cured adhesive as claimed; that is, Miller et al. lacks a film between the protective coating #70 and the substrate. In this regard, applicants note that the interphase region #94 shown in Figs. 4 and 5 of Miller et al. illustrates that portion of the protective coating #70 which has been intermingled with a portion of the asphalt coating #74 by melting and mixing, because of the partial miscibility of the protective coating with the asphalt coating (column 7 lines 9-15).

Similarly, George et al. is directed to roofing materials formed from granules coated with a ceramic embedded in the asphalt of a roofing shingle with an adhesive that provides an interface between the asphalt and roofing granules. Accordingly, George et al. fails to supply any of the above noted deficiencies of Miller et al.

For these reasons, a prima facie case of obviousness of the claims based upon Miller et al. and George et al. has not been established. The rejection of claims 1, 26, 28, 29 and 36-38 under 35 U.S.C. 103(a) as being unpatentable over Miller et al. in view of George et al. is unwarranted and should be withdrawn.

**Conclusion**

Favorable reconsideration of the present application and the passing of this case to issue with all claims allowed are courteously solicited. Should the Examiner wish to discuss any aspect of this application, Applicants' attorney suggests a telephone interview in order to expedite the prosecution of the application.

Respectfully submitted,

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